

**ABSTRACT**

[0057] A compound intracavity interferometer for a free-electron laser (FEL) comprising at least two beam splitters positioned at a predetermined angles with respect to optical pathways. It is emphasized that this abstract is provided to comply with the rules requiring an abstract which will allow a searcher or other reader to quickly ascertain the subject matter of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope of meaning of the claims.